ANSWERS

1. An integer greater than 1 that is not prime is called composite. If the two-digit integer n is greater than 20, is n composite?
(1) The tens digit of n is a factor of the units digit of n.
(2) The tens digit of n is 2.

Given: $n > 20$ --> two digit integer can be written as follows: $n = 10b + a > 20$ --> $2 \leq b \leq 9,\ 0 \leq a \leq 9$.

(1) tells that $a = kb$, $(0 \leq k \leq 4)$ --> $n = 10b + a = 10b + kb = b(10 + k)$ --> as $b \geq 2$, n will always be composite and factor of b. Sufficient

(2) tell that $b = 2$, but n can be for instance composite 25 or prime 29. Not sufficient.

Answer: A.

2. Is the measure of one of the interior angles of quadrilateral ABCD equal to 60?
(1) Two of the interior angles of ABCD are right angles.
(2) The degree measure of angle ABC is twice the degree measure of angle BCD.

Sum of inner angels of quadrilateral is 360 degrees. **(Sum of inner angles of polygon=180(n-2), where n is # of sides)**
(1) Angles can be 90+90 + any combination of two angles totaling 180. Not sufficient.
(2) <ABC=2<BCD. Not sufficient

(1)+(2) Angles can be 90+**90+45**+135 Or 90+90+**60+120** Not sufficient.

Answer: E.

3. Is x + y < 1 ?
(1) x < 8/9
(2) y < 1/8

(1) Info only about x. Not sufficient
(2) Info only about y. Not sufficient
(1)+(2) x+y<73/72 Not sufficient

Answer: E.

4. Is x^4 + y^4 > z^4 ?
(1) x^2 + y^2 > z^2
(2) x+y > z

Plugging numbers from Pythagorean triplets is the best way to get that not sufficient.

Answer E.

5. At a certain theater, the cost of each adult's ticket is $5 and the cost of each child's ticket is $2. What was the average cost of all the adult's and children's tickets sold at the theater yesterday?
(1) Yesterday ratio of # of children's ticket sold to the # of adult's ticketr sold was 3 to 2
(2) Yesterday 80 adult's tickets were sold at the theater.

Av. cost=(2*C+5*A)/(C+A)
(1) 3A=2C A=2C/3 --> Av.cost C(2+5*2/3)/C(1+2/3) --> (2+5*2/3)/(1+2/3) Sufficient
(2) A=80 know nothing about C Not sufficient.

Answer: A

6. Are some goats not cows?
(1) All cows are lions
(2) All lions are goats.

This is good one:
Question generally asks is g>c?
(1) c<=l Not sufficient
(2) l<=g Not sufficient

(1)+(2) c<=l<=g --> If all cows are lions and all lions are goats there are no goat, which are not cows, in other case there are, so Not sufficient

Answer: E.

7. Patrick is cleaning his house in anticipation of the arrival of guests. He needs to vacuum the floors, fold the laundry, and put away the dishes after the dishwasher completes its cycle. If the dishwasher is currently running and has 55 minutes remaining in its cycle, can Patrick complete all of the tasks before his guests arrive in exactly 1 hour?
(1) Vacuuming the floors and folding the laundry will take Patrick 36 minutes.
(2) Putting away the dishes will take Patrick 7 minutes.

(1) Don't know how much time is needed to put away dishes. Not sufficient
(2) If dishwasher will stop after 55 min and 7 min is needed to put away dishes 55+7=62>60, so Patrick won't complete all of the tasks before his guests arrive in exactly 1 hour. Sufficient

Answer: B

8. Are all of the numbers in a certain list of 15 numbers equal?
(1) The sum of all the numbers in the list is 60.
(2) The sum of any 3 numbers in the list is 12.

(1) S=60 list can contain numerous combination of 15 numbers totaling 60. Not sufficient.
(2) If the sum of ANY 3 numbers=12 all numbers=12/3=4. Sufficient.

Answer: B.